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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Dittenhofer

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LUCAS & MERCANTI, LLP
475 PARK AVENUE SOUTH
15TH FLOOR
NEW YORK, NY 10016

EXAMINER

WEISSMAN, JOSEPH M

ART UNIT

PAPER NUMBER

4135

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,369	Applicant(s) DITTENHOFER, THOMAS	
	Examiner Joseph M. Weissman	Art Unit 4135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9 Dec. 2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 2 is objected to because of the following informality: It is unclear how an accommodation hole of the connecting construction holds a bearing housing concentrically. Appropriate correction is required.

Claim 6 is objected to because of the following informality: The term "the receptacle hole" has no antecedent basis for a receptacle hole. It is assumed by the examiner that claim 6 is meant to be an accommodation hole as described in claim 2 such that the receptacle hole no longer lacks antecedent basis. Appropriate correction is required.

Claim 9 is objected to because of the following informality: The term "the measuring ring" has no antecedent basis for a sensor. It is assumed by the examiner that claim 9 is meant to be a dependent claim of claim 8 such that the measuring ring no longer lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hajek et al., U.S. Patent No. 6,408,748 B1.

Hajek et al. discloses claim **1, an electromotive direct drive** (Electric motor 129, Figure 33, Column 10 Line 33) **for one cylinder of a printing press** (Hajek et al. discloses the electric motor 128 can be for a transfer cylinder with print engagement or disengagement possible, Figure 33, Column 10 Lines 32 ~ 38), **which cylinder is held in a connecting construction** (Side wall 131, Figure 33, Column 10 Line 34) **with a journal** (Journal 132, Figure 33, Column 10 Line 36) **via a roller bearing** (3 ring bearing 130, Figure 33, Column 10 Line 33), **a rotor** (Rotor 133, Figure 33, Column 10 Line 40) **of an electric motor** (Electric motor 128, Figure 33, Column 10 Line 32) **being connected fixedly in terms of rotation to the journal, and a stator** (Stator 127, Figure 33, Column 10 Line 32) **being connected to the connecting construction, characterized in that the rotor is connected to an end side of the roller bearing** (Figure 33 shows the rotor 133 connected to an end side of the 3 ring bearing 129 via connection to the journal 132), **and the stator is accommodated by a housing** (The casing adjacent to the stator 127 connecting the stator 127 to the flange 134 as shown

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in Figure 33) **which can be fastened to the connecting construction via a bearing housing** (The bearing housing defined by the flange 134 and the flange on the opposite side of the bearing ring 129 in such Figure 33 shows the housing is fastened by a screw to flange 134 and then fastened to the side wall 131 by hold down device 135, Figure 33, Column 10 Lines 38 ~ 45).

Hajek et al. discloses **the direct drive as claimed in claim 1, and claim 2, characterized in that the bearing housing is held concentrically by an accommodation hole of the connecting construction** (Figure 33 shows a gap, an accommodation hole, between the flange 134, bearing ring 129, side wall 131, and a flange on opposite side of the bearing ring from flange 134 which holds the bearing housing, the two flanges, and side wall concentrically around the axis of the journal 132).

Hajek et al. discloses **the direct drive as claimed in claim 1, and claim 3, characterized in that, in the radially inward direction, the rotor covers an end side of the journal at least partially** (Figure 33 shows the rotor 133 partially covering the left end journal 132. Figure 33 is a cross sectional side view of an embodiment of an electric motor on a form cylinder shown in Figure 29 as motors 100, 101, and 102 at the end of cylinders 81.3, 82.3, and 83.3, Column 9 Lines 22 ~ 31).

Hajek et al. discloses **the direct drive as claimed in claim 1**, and claim 5, **characterized in that an outer raceway of the roller bearing is formed by an outer ring** (Bearing ring 129, Figure 33, Column 10 Line 37) **or by the bearing housing**.

Hajek et al. discloses **the direct drive as claimed in claim 5**, and claim 6, **characterized in that the outer raceway of the roller bearing is offset eccentrically with respect to an axis of an accommodation hole of the connecting construction** (Figure 33 shows the bearing ring 129 offset eccentrically from the axis of the journal 132 which is the same axis as the accommodation hole of the side wall 131).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hajek et al., U.S. Patent No. 6,408,748 B1 as applied to claims 1, 2, 3, 5, and 6 above, and further in view of Kobayashi et al., U.S. Patent Publication 2003/0167942 A1.

Hajek et al. discloses **the direct drive as claimed in claim 1**, and discloses the use of a three ring bearing 130 but does not mention the bearings characterized as

roller, cylindrical, tapered, or angular contact ball bearings while Kobayashi et al. teaches a printing cylinder bearing device with a similar structure of three bearings adjacent the printing cylinder as cylinder roller type bearings.

Kobayashi et al. teaches claim **4, characterized in that the roller bearing** (Cylindrical rollers 16, Figure 1, Paragraph 0028) **is a cylindrical roller bearing, a tapered roller bearing or an angular contact ball bearing.**

To one of ordinary skill in the art at the time of the invention, it would have been obvious to combine Hajek et al.'s invention with Kobayashi et al.'s invention as a means to provide a printing cylinder bearing device which assures easy maintenance since the loads exerted in the radial and axial directions of the printing cylinder are sustained by separate bearings, and any of them can be easily replaced with a new one when damaged (Kobayashi et al., Paragraph 0011).

Claims 7, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hajek et al., U.S. Patent No. 6,408,748 B1 as applied to claims 1, 2, 3, 5, and 6 above, and further in view of Gotz et al., U.S. Patent No. 5,656,909.

Hajek et al. discloses **the direct drive as claimed in claim 1**, but does not mention a measuring apparatus for determining the rotational angle while Gotz et al. teaches a printing cylinder with such a measuring apparatus.

Gotz et al. teaches claim **7, characterized in that a measuring apparatus** (Angle encoder 44, Figure 1) **for determining the rotational angle of the cylinder** (Cylinders shaft E, Figure 6, Column 7 Line 39) **is arranged on said cylinder for achieving synchronism with other cylinders of the printing press** (Gotz et al. teaches providing each cylinder of a printing machine with an angle encoder 44 that is directly attached and that measures the angle positions directly and feeds them to the drive system to result in an accurate control with dynamic characteristics that allow exact web guiding, constant web tension, and uniform coloring by precise registration control and print settings, Gotz et al. Column 4 Lines 33 ~ 64).

To one of ordinary skill in the art at the time of the invention, it would have been obvious to combine Hajek et al.'s invention with Gotz et al.'s invention as a means to provide a printing machine with a plurality of printing cylinders with accurate control with dynamic characteristics that allow exact web guiding, constant web tension, and uniform coloring by precise registration control and print settings (Gotz et al., Column 4 Lines 33 ~ 64).

Hajek et al. and Gotz et al. teach **the direct drive as claimed in claim 6**, and Gotz et al. further teaches claim **8, characterized in that a sensor** (Pick-up transducer 66, Figure 6, Column 7 Line 49) **is arranged in the bearing housing** (Eccentric bushings A, Figure 6, Column 7 Line 28, where Gotz et al. teaches the mounting shaft 65 for pick-up transducer 66 can be attached directly to frame H and the pinion 63 is mounted directly to the front of one of the cylinders, Column 7 Lines 61 ~ 67. This

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embodiment will place the pinion 63 adjacent to and encompassed by eccentric bushings A), **which the sensor is operatively connected to an encoded measuring ring** (Pinion 63, Figure 6, Column 7 Line 43) **which is arranged on the journal** (Cylinder shaft E, Figure 6, Column 7 Line 39) **of the cylinder** (Cylinders D1 ~ D4, Figure 6, Column 7 Line 31), **the sensor signals which are detected being supplied to a control device for adjusting advanced or retarded running** (A transducer acts as part of an angular encoder where Gotz et al. teaches providing each cylinder of a printing machine with an angle encoder 44 that is directly attached and that measures the angle positions directly and feeds them to the drive system to result in an accurate control with dynamic characteristics that allow precise registration control and print settings, Gotz et al., Column 4 Lines 33 ~ 64).

Hajek et al. and Gotz et al. teach **the direct drive as claimed in claim 8**, and Gotz et al. further teaches claim **9, characterized in that the measuring ring is formed as a separate component** (Figure 6 shows the sensor pinion 63 as a separate component) **or by an axial extension of an inner ring of the roller bearing.**

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Branas et al., U.S. Patent 5,771,805 draws to a printing machine with several printing stations having electric motor driven printing cylinders with angular position monitoring and synchronization.

Geissenberger et al., U.S. Patent 5,953,991 draws to an electric motor driven cylinder for a printing press with rotations angle sensors.

Weschenfelder, U.S. Patent 6,178,884 B1 draws to an electric motor driven printing cylinder.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph M. Weissman whose telephone number is (571) 270-5301. The examiner can normally be reached on Monday through Friday, 7:30am to 5:00pm EST with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Brewster can be reached on (571) 272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. M. W./
Examiner, Art Unit 4135

/William M. Brewster/
Supervisory Patent Examiner, Art Unit 4135